

REMARKS/ARGUMENTS

Claims 10, 11, 12, and 21-25 are pending. In the Office Action mailed April 4, 2007, the Examiner acknowledged Applicants' prior arguments and withdrew the previous rejections. The Examiner applied a new grounds of rejection, however, and rejected claims 10, 11, 12, and 21-25 under 35 U.S.C. § 103(a) as unpatentable over the combination of the Shoroff '744 Patent in view of the Blumenau '442 Patent in view of the newly-cited U.S. Patent No. 6,839,815 to Kagami, and further in view of the Igami '223 Patent. Further examination and reconsideration of the application, as amended, are requested.

Applicants respectfully traverse the claim rejection over the proposed combination and request withdrawal of the Kagami '815 Patent from consideration. Details of the request are provided below. Claims 12, 21, and 22 have been amended to correct grammatical errors and for more consistent wording among the claims. New claims 26, 27, and 28 are provided. New claims 26 and 27 depend from claim 22 and are supported, for example, by Figure 7 and Figure 8, respectively. New claim 28 is a system claim that recites features similar to those of method claim 22 and is supported, for example, by the structure illustrated in Figure 3.

The Kagami '815 Patent

The present application (Serial No. 10/717,341) and the Kagami '815 Patent were, at the time the invention of the present application was made, owned by Hitachi, Ltd. It is noted that the Kagami '815 Patent is available as prior art only under 35 U.S.C. § 102(e): the present application is a continuation application of U.S. Serial No. 10/032866 (now U.S. Patent No. 6,711,656) and for prior art purposes is entitled to the parent application filing date of December 27, 2001. The Kagami '815 Patent was filed in the U.S. on May 7, 2001. The Kagami '815 Patent was not publicly available until publication on November 7, 2002.

Under 35 U.S.C. § 103(c), the Kagami '815 Patent cannot preclude patentability of the present subject matter under Section 103(a). That is, the Kagami '815 Patent cannot be relied upon for the Section 103 rejection. Withdrawal of the Kagami '815 Patent as a reference is requested.

In the Office Action, the Examiner conceded that Shoroff and Blumenau "do not teach specifying the size and speed of the storage area to be used in a utilization demand message from said storage system to said remote storage system that identifies a predetermined port ID of the storage system, and wherein said remote storage system determines if said remote storage area can be provided in accordance with said size and speed, and if it is possible, sends a data packet from the remote storage system to the storage system, said data packet identifying a remote unit ID of the remote storage area that is to be stored in a port management table of the storage system in accordance with the port ID identified in the utilization demand message." See the Office Action at the first paragraph of Page 4. The Examiner cited Kagami '815 for teaching these features and asserted that combining Kagami '815 with Shoroff and Blumenau would have been obvious.

With the unavailability of Kagami '815 as a reference, it is submitted that the rejection of claims 10, 11, 12, and 21-25 must fail, because the features quoted above from the Office Action are admittedly absent from the combination of Shoroff, Blumenau, and Igami. Therefore, in view of the admitted shortcomings of Shoroff, Blumenau, and Igami, it is submitted that claims 10, 11, 12, and 21-25 are patentable over the references of record upon the removal of Kagami '815 as a reference. New claims 26 and 27 depend from claim 22 and it is submitted that they likewise are patentable over Shoroff, Blumenau, and Igami. New claim 28 is a system claim that recites features similar to those of method claim 22, and it is submitted that claim 28 is likewise patentable over Shoroff, Blumenau, and Igami.

The Obviousness Rejection Over Shoroff, Blumenau, Kagami, and Igami

Notwithstanding the removal of Kagami '815 as a reference, it is submitted that the proposed combination does not render the pending claims obvious.

In accordance with M.P.E.P. § 2143, to establish a *prima facie* case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; (3) the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Kagami '815 describes a Storage-on-Demand (SoD) system in which a host computer sends a demand for additional storage to an SoD center. The SoD center then decides what storage subsystem to use and then sends a demand to the selected storage subsystem. See, for example, Kagami '815 at column 2, lines 16-30 and column 10, lines 17-35.

In making the rejection, the Examiner equated the host computer of Kagami '815 with the claimed storage system that sends the utilization demand message. It is submitted that having the SoD center decide what storage subsystem to use, rather than the initiating host computer that generates the demand message, is not consistent with the claim language of having the demand message specify the size and speed and port ID of the storage subsystem. The other claim features quoted above would likewise be absent from the combination. Therefore, it is submitted that, even if Kagami '815 was available as a reference, and even if the proposed combination was considered, the proposed combination would not provide all the claim elements. Moreover, it is submitted that there is no suggestion for making the proposed combination, and no likelihood of successfully combining, because of the disparate subject matter of the references: Shoroff relates to freeing storage space allocated to a particular file, Blumenau relates to dynamic updating of mounted volumes, and Igami relates to buffer operations for temporary storage. Thus, the proposed combination does not render the pending claims obvious.

It is noted that, in accordance with the present invention, if the remaining amount of storage area in a storage system is not sufficient, a remote storage area is directly mounted from a remote storage system onto the storage system, thereby readily expanding its available storage area. Thus, there is the remarkable effect that the remote storage area can be provided to expand available storage to the storage system (e.g., see line 29 of page 14 to line 3 of page 15 in this application specification). This effect could not be expected from the cited references and more efficiently utilizes system resources.

Further, the cited references other than Blumenau all recite a data storage structure relating to a host computer, or relate to mounting between a host computer and a disk array device, but do not disclose or teach that a remote disk array device is connected via a disk array device of a storage system. For example, Shoroff describes only a structure where a

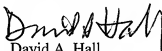
processor 22 accesses disk drives via a file system 28 and an operating system 26 in a memory 24. The Shoroff structure corresponds to a host computer because Shoroff's structure has an I/O 34 but cannot provide or suggest the claimed structure. Bluemenau describes the internal structure of a host computer and likewise cannot provide or suggest the claimed structure. Igami describes an optical disk drive in which temperature variation or the like is dealt with, and is inapplicable to the issues to which the present invention is directed.

Thus, none of the cited references show or teach a storage system that directly mounts a storage area onto a remote storage system as described in this application. Further, the cited references are directed to hosts and storage devices and optical disc drives, rather than the features of the claimed invention. Therefore, the above-mentioned benefits could not be expected from any combination of the cited references.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Respectfully submitted,



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Attachments
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